

**DETERMINING PHASE TRANSITION PRESSURE
OF DOWNHOLE RETROGRADE CONDENSATE**

ABSTRACT

The invention provides a method for determining phase transition pressure of downhole retrograde condensate. An OBM-contamination value is produced from a time-series of fluorescence values produced by measuring fluorescence emitted from a single-phase flow of OBM-contaminated formation fluid in a downhole cell during a cycle of time. The pressure of fluid in the cell is set at a transition boundary by incrementing drawdown pressure and monitoring the presence or absence of a phase transition. An apparent phase transition pressure value associated with the cycle of time is produced by setting apparent phase transition pressure value equal to cell pressure. This process is repeated for several cycles of time to produce a number of pairs of OBM-contamination value and apparent phase transition pressure value as OBM-contamination decreases over time. The value of phase transition pressure is determined by extrapolating from a representation of apparent phase transition pressure values versus OBM-contamination values.